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January 17,2003

Office of the Secretary
Federal Communications Commission
445 12th St., S.W., Room TW-A325
Washington, D.C. 20554

RE: Petition for Revision in FCC Part 24.232

Petition is related IO:

WT Docket No. 01-309, NPRM Related *to* Reexamination of Exemption Granted Personal Communications Services devices from the Hearing Aid Compatibility Act of1988

Dear Commissioner:

We represent Myers Johnson, Inc. (MJI), a company involved in the design and production of wireless communication accessories. MJI is devoting significant attention to communications equipment access issues for persons with hearing disabilities and is interested in the proceedings of the Federal Communications Commission (the Commission) as they relate to healing aids and cochlear implants. MJI has been following the Commission's reexamination of the cxcmption granted Personal Communications Services (PCS) devices from certain provisions of the Hearing Aid Compatibility Act of 1988 (the HAC Act), as announced in the Notice of Proposed Rulemaking (the NPRM), WT Docker 01-309.

We believe that the directional antenna technology MJI has developed significantly advances resolution of the compatibility problem between hearing aids and wireless phones feasible as it relates to the intcrfcrence caused by RF signals. However, we have discovered that by, what we bclicve is an accident of wording, FCC Part 24.232, precludes the effective implementation of innovative directional antenna technologies. We therefore urge the Commission to revise this section of the rules.

MJI's research has revealed that the parallel European requirement found in the ETSI standards is worded differently and allows the use of innovative directional antennas. We thcrcfore petition that FCC Part 24.232 be revised and harmonized with the corresponding ETSI rcqui rement.

Enclosed herewith are two letters from concerned parties in support of the Petition. We would appreciate the Commission's consideration of the foregoing as it finalizes its decision

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regarding the exemption that is the subject of the NPRM. Please feel free to contact me at (617) 854-4184 if we may provide any further information or assistance in this process.

Sincerely,

For the Petitioner, Myers Johnson, Inc

John A. Hamilton, Esq.
Perkins, Smith & Cohen. LLP

cc: Qualex International. Portals II
Federal Communications Commission
445 12th Street
FCC 01-320 17 SW, Rm CY-B402
Washington. D.C. 20554

Wireless Telecommunications Bureau, Policy Division
Federal Communications Coinmission
445 12th Street. S.W.
Washington. D.C. 20554

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Petition for Revision of FCC Part 24.232	)	
In connection with	)	
Section 68.4(a) of the Commission's Rules Governing Hearing Aid Compatible Telephones	)	**WT Docket No. 01-309 RM-8658**

PETITION
OF
Myers Johnson Inc.

Myers Johnson Inc. (MJI) presents this Petition with arguments for use of directional antennas in the improvement of wireless hearing aid compatibility through the reduction of RF interference. The purpose of this petition is that an FCC rule change is required to remove the isotropicity requirement contained in FCC Part 24.232, 47 CFR 24.232, and allow innovative use of directional antennas with cellular phones.

Specifically we rcyuest that FCC Part 24.232, which now recites:

> *§ 24.232 Power and antenna height limits*
>
> *(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power und the equipment must employ means to limit the puwer to rhe minimum necessary for successful communications.*

MJI suggests that this section be revised to read:

> *§ 24.232 Power and antenna height limits*
>
> *(b) Mobile/portable stations are limited to dBm peak power supplied to re antenna and the equipment must employ means to* **limit** *rhe power to the minimum necessary* for *successful communications.*

MJI is a new company involved in the design, development, and launch of an antenna accessory referred to as an Interferometric Antenna Array (IAA). This was explained in MJI's response to Docket No.01-309 comments NPRMWT 5/15/02. Currently the IAA is an accessory for cellular phones that can bc incorporated into nearly any handset to significantly address HAC issues as related to RF emissions from the cellular phone antenna. The IAA fits as an accessory to most handsets equipped with an external RF connector and can be ultimately designed into all handsets. With this alternative antenna, a phone can be effectively adapted for use by hearing aids users.

MJI is working to bring a new and creative solution to the issue of wireless Hearing Aid Compatibility.

Through use of directional antenna technology, the electromagnetic fields directed toward the user can be dramatically reduced, allowing the hearing aid to function with greatly reduced or eliminated RF interference. The hearing aid user can simply pick up the cellularphone and begin using it without the need to make connections of loops, headsets, or other coupling devices. MJI believes that reducing the RF signal at the hearing aid is the most technically feasible solution.

MJI's independent rest confirms that the I A A antenna can reduce R F energy toward the hearing aid by a significant amount. Naturally, loading of the antenna by the user and the surrounding environment affects the performance measured. However, in tests of over 40 hearing aids currently sold on the market all hearing aids tested were able to use the phone when equipped with an IAA antenna. With the antenna provided with the phone only –20% were judged to be usable with the phone. The I A A is a viable approach to addressing the H A C Act.

In reducing RF energy to the hearing aid, directional antenna reduce energy in the lateral areas of the antenna (sides where user can be found) and it enhances energy gain in the longitudinal areas of the antenna (forward and rear for cellular site connections) as a consequence. This figure "8" radiating pattern balances out to an effective radiating power (ERP) conducive to maintain adequate carrier service. This was illustrated in preliminary tests conducted by MJI, wherein the directional antenna was tested driving along a routes known to have regular drop offs. No additional drop offs were experienced using the I A A and some cases the I A A improved both performance and clarity. According to the International Electrical and Electronic Engineers Report, as much as 68% of RF energy is absorbed by the user's head or body (Proceedings of the IEEE January 1995 Report Handset Antennas and Humans). When using a directional, this wasted energy is redirected to the front or rear of the user thus improving efficiency. In addition, the idealized energy improvements in radiated energy toward cellular sites is a substantial advantage over current technology and may facilitate energy reductions in overall energy output.

MJI is seeking this revision to the isotropicity requirement contained in FCC Part 24.47 CFR 24.232, in order to allow industry-generated innovations to reduce emissions at the hearing aid by shaping energy and to assist industry to fully comply with the requirements of the HAC Act.

James R. Johnson 925 935 2473

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Better Hearing Center, LLC

Hearing Aid Evaluations
Hearing Aid Analysis
Audiological Evaluations
Pediatric Evaluations
Industrial Audiology

31 Panoramic Way, 1st Floor
Walnut Creek, CA 94595
(925) 938-8686
Fax: (925) 938-7473
www.betterhearing.com

January 15, 2003

Jim Johnson
President
Myers Johnson, Inc
1255 Columbus Avenue, Suite 200
San Francisco, CA 94133

Dear Jim,

I want you to know that I am in support of the FCC granting the waiver for interferometry using the Vortis solving the radio frequency (RF) interference problem between cell phone and hearing aids. Our study and testing of 47 different hearing aids found that the Vortis device eliminated the RF interference in all the devices that had the RF interference without the Vortis device attached to the phone. This is a great step in the right direction for the hearing impaired using cell phones. There should be no reason for the FCC to delay any longer.

The hearing impaired population has been struggling and frustrated by not being able to use cell phones like the rest of the normal hearing population It would be unfair and discriminatory to further delay, especially since the solution is viable, proven to be successful, and cost effective. The Hearing Industry Association and Cell Telephone Industry Association should have no reason to call for any more delays. They should embrace this solution and begin to incorporate the Vortis device for there hearing impaired customers.

As a practicing audiologist for 16 years, I am very excited when new technology can help the hearing impaired in new ways The Vortis device will help the millions of hearing impaired in this country to now use cell phones with ease.

Sincerel ,

Mark J. Sanford, M.S., CCC-A
Clinical Audiologist

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Antenna Analysis, Inc.
172 West Jackson Street
Millersburg, OH 44654

December 2.2002

Myers Johnson, Inc.
Attn: Jim Johnson
1255 Columbus Ave., Suite 200
San Francisco, CA 94133

Jim.

Thank you for the opportunity to evaluate the "Vortis" antenna. I evaluated the pattern performance of the antenna and did confirm the depth of the nulls in your design (better than 20 dB). I agree that steering the null in the direction of a hearing aid will significantly reduce and most likely eliminate any spurious interference with hearing aids currently on the market.

This would be a terrific improvement in cellular communications for hearing aid users. I have spoken to several hearing aid users and they all want one now. The constant noise generated by the emissions of the cell phone is a deterrent for the people I spoke to and none of then like using a headset

Congratulations on your elegant solution to this problem. I wish you the best of luck with your product. There are a lot of people out there that can't wait

Sincerely,

Timothy Milam
President,
Antenna Analysis, Inc.
172 West Jackson Street
Millersburg, OH 44654